IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.	:	09/807,774	Confirmation No.: 4626
Applicant	:	Harald KAUFMANN	
Filed	:	April 17, 2001	
Group Art Unit:		2854	
Examiner	:	ZIMMERMAN, Joshua	
Docket No.	:	436.0004	
Customer No.:		25534	
For	:	SERIAGRAPHY REFLECTION TRANSFER PRODUCT AND METHOD FOR PRODUCING THE SAME	

DECLARATION UNDER 37 C.F.R. 1.132

Assistant Commissioner of Patents
Alexandria, Virginia 22314

Sir:

I, Mr. Harald Kaufmann, hereby declare and state that:

1. I am the inventor of the above U.S. patent application.

2. I am a citizen of the Federal Republic of Germany and am fluent in German and English.

3. I graduated in 1983 with a degree as Dipl. Ing. Printtechnik (Engineer of Print Technology).

4. I worked at Avery from 1983-1989 specializing in Self-Adhesive Labels and Foils. During this time, I was also a Technical Director and Consultant for Texo-Print GmbH (screen-printing department) from 1994-1999.

5. From 1990 to the present, I have been employed as a General Manager at Kaufmann-Druck GmbH in Essen, Germany.

6. From 1999 to the present, I have been a General Manager for TransPrint GmbH (Screen-Printing Department, Offset-Printing Department, Transfer Department, Flock Department, Sticker Department, etc.).

7. I have read and understood U.S. Patent No. 3,172,942 (Berg) and U.S. Patent No. 5,916,399 (Olsen), which were cited in the above US patent application.

I. The Temporary Removable Liner of Berg is not an Adhesive-Repellent Base Medium

8. The Examiner asserts that the Reflective Dry Transfer of Berg could simply be inverted. Thus, for example in FIG. 1 of Berg, the Temporary Removable Liner 19 would be an "adhesive-repellent base medium". However, this understanding of Berg is incorrect.

9. The Temporary Removable Liner (polyethylene sheet) 19 according to Berg cannot be a base layer and, in particular, is not adhesive-repellent. The Temporary Removable Liner of Berg is applied "over the exposed dry adhesive coating 18" (col. 7, line 5 of Berg) as a temporary protection. The fact that this step is done on the dry adhesive coating obligatorily implies that the Temporary Removable Liner 19 itself is not adhesive-repellent but, to the contrary, exhibits some degree (even if low) of adhesion. Otherwise, the Temporary Removable Liner 19 would not stick to or protect the dry adhesive coating 18, which is its only function according to Berg. Thus, one of ordinary skill in the art would understand that Temporary Removable Liner 19 is not adhesive-repellent and is not a base medium.

10. In contrast, the adhesive-repellant base medium of the present invention may be actively provided with a repellant functionality. The adhesive-repellant base medium may be, for example, a paper or plastic film coated with silicone or wax, or an appropriate material, and therefore is actively adhesive-repellant. There is no disclosure at all in Berg of an actively adhesive-repellant functionality in the Temporary Removable Liner 19.

11. Further, if the base medium of the present invention were not adhesive-repellant but had an adhesive force as disclosed in Berg, it would be impossible to remove the transfer film after applying the transfer film onto the base medium. The transfer film (which itself is adhesive) and an adhesive base medium would stick together in those regions where a motif is not present (e.g., an outline of an alphanumeric sign).

12. In addition, the Temporary Removable Liner 19 of Berg, being self-adhesive, does not allow an application of an adhesive layer in a liquid state. According to the present invention, the transfer adhesive may be imprinted on the adhesive-repellant base medium in a liquid state and then dried (thereby avoiding pressure forces that may

destroy the structure/shape of the adhesive and the result of the inventive process). In contrast, according to Berg, the adhesive layer is present in the dried, non-liquid state before the Temporary Removable Liner 19 is applied, so that this step has to be accompanied by force/pressure.

II. The Method Steps of Berg May Not Simply Be Inverted

13. The structure and process steps of Berg may not simply be inverted to achieve the present invention for the following reasons:

14. First, inverting the structure of Berg would mean starting with Temporary Removable Liner 19 which, as explained above, is necessarily self-adhesive, not adhesive-repellent.

Starting with the Temporary Removable Liner 19 would result in a screen printing machine (the mesh of the screens) unavoidably sticking to the self-adhesive Temporary Removable Liner 19. During a screen printing process (i.e., during printing of the several layers according to the present invention), the screen necessarily contacts a base medium and would therefore stick to the adhesive Temporary Removable Liner 19 of Berg if it were to serve as a base medium. Further, in the field of sheet ware/goods, such self-adhesive sheets according to Berg would stick to each other if the sheets are stacked. In contrast, the base medium of the present invention is adhesive-repellent and thereby prevents such sticking in a screen printing process.

15. Second, Berg teaches embossing the surface of the Temporary Removable Liner 19 (col. 3, lines 23-24 of Berg). This embossing results in a non-flat surface of the Temporary Removable Liner 19. This effect is to reduce the adhesion (which nevertheless must exist) to the adhesive coating 18, and also excludes using Temporary Removable Liner 19 as a base medium. If such a non-flat layer were used as a base medium, the roughness of the non-flat layer due to the embossing would continue in the subsequent layers, thereby destroying the desired reflective transfer.

16. Third, the carrier base 11 according to Berg is covered with a carrier coating 12, which is thermoplastic and allows sinking of transparent beads 14. The sinking of the beads is dependent on the specific melting characteristics of the thermoplastic carrier coating 12 (col. 3, line 64 - col. 4, line 16 of Berg). Inverting the structure of

Berg would mean using this carrier as the claimed transfer film 5 (shown in Fig. 2 of the present application). However, transfer film 5 cannot be thermoplastic, since otherwise, any thermoplastic material would stay on the reflection particles 4 contrary to the present invention.

17. Finally, inverting the structure of Berg would mean that the transparent beads 14 would have to arrange themselves onto the pigmented bead-binder layer 16, instead of sinking into the thermoplastic carrier coating 12 as required by Berg. As a result, a plurality of beads would not be anchored or fixed in a spatially constant position, which would not result in the formation of a desired motif.

18. Thus, the steps of the currently claimed methods of manufacturing a reflection transfer and applying the transfer to a substrate are distinct from the steps required by Berg. One skilled in the art would understand that the steps of Berg cannot be inverted as argued by the Examiner.

III. Advantages of the Claimed Invention

A. The Claimed Reflection Ink Layer Forms a Motif

19. The claimed methods recite a reflection ink layer comprising a colored ink and plurality of reflection particles and which forms a motif.

20. According to the present invention, the reflection particles are comprised in a reflection ink, wherein said reflection ink is colored. As a consequence, while the reflection particles of the present invention provide for very good reflection properties due to the fact that they are raised above the surface of the hardened ink, the color(s) which is/are present in the formed motif are caused by the reflection ink (and not by the reflection particles).

21. In contrast, according to Berg, design effects are achieved due to the use of colored beads and/or colored binders which cannot enable the creation of motifs as formed according to the present invention. Insofar as Berg mentions the forming of "silhouettes of aircraft, Indian heads" etc., these silhouettes are only obtained after cutting them from the composite sheet material (col. 2, lines 47-55). However, an

arrangement of the color in the reflective transfer itself (in order to show motifs such as an alphabetic character, a number, or the like) is not possible using Berg's method.

22. Further, as noted, inverting the structure of Berg as asserted by the Examiner would require that the transparent beads 14 would have to arrange themselves onto the pigmented bead-binder layer 16, instead of sinking into the thermoplastic carrier coating 12 as required by Berg. As a result, a plurality of transparent beads would not be anchored or fixed in a spatially constant position. Thus, it would not be possible to print an imagewise pattern onto such non-fixed microspheres, as required by Olsen (color layer 22, see col. 4, lines 13-20 and FIG. 1). Contrary to the assertion in the Office Action, a motif according to the teachings of Olsen could not be included into a modified method of Berg.

B. Motif Printed with a Plan View

23. Furthermore, the claimed method allows for a motif to be printed with a plan view of its correct side. Accordingly, the motifs are not printed onto transfer carriers in a mirror-reversed fashion as required by the cited art.

24. Imprinting a motif with a plan view of its correct side introduces several problems, process requirements, and material specifications that do not exist in the conventional mirror-reverse order motifs. Such requirements are met according to the present invention and comprise, *inter alia*, a smooth transfer adhesive on a base medium (i.e., without imperfections or embossing which would occur in Berg); a reflection ink that contains the reflection particles and is applied in liquid state and dried afterwards, so that the reflection particles remain raised above the hardened ink surface; and the use of a transfer medium which is strong enough to remove the transfer from the base medium and weak enough in order to be removed from the transfer after application on a substrate (e.g., textile). Contrary to the Examiner's assertion, it is absolutely not "common sense" to reverse the sequence of steps in Berg and print a motif in plan view rather than in a reverse manner. Rather, the present invention has been a result of finding solutions for the above-mentioned problems/requirements.

IV. Conclusion

25. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under 1001 of Title 18 of the United States Code, and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

H. Vogel

Mr. Harald Kaufmann

05.03.2010

Date